

What is claimed is:

1. Seed of maize inbred line designated PH7JD, representative seed of said line having been deposited under ATCC Accession No. PTA-4532.
2. A maize plant, or a part thereof, produced by growing the seed of claim 1.
3. The maize plant of claim 2 wherein said plant has been detasseled.
- 5 4. A tissue culture of regenerable cells produced from the plant of claim 2.
5. Protoplasts produced from the tissue culture of claim 4.
- 10 6. The tissue culture of claim 4, wherein cells of the tissue culture are from a tissue selected from the group consisting of leaf, pollen, embryo, root, root tip, anther, silk, flower, kernel, ear, cob, husk and stalk.
- 15 7. A maize plant regenerated from the tissue culture of claim 4, said plant having all the morphological and physiological characteristics of inbred line PH7JD, representative seed of said line having been deposited under ATCC Accession No. PTA-4532.
- 20 8. A method for producing an F1 hybrid maize seed, comprising crossing the plant of claim 2 with a different maize plant and harvesting the resultant F1 hybrid maize seed.
9. A method of producing a male sterile maize plant comprising transforming the maize plant of claim 2 with a nucleic acid molecule that confers male sterility.
- 25 10. A male sterile maize plant produced by the method of claim 9.
11. A method of producing an herbicide resistant maize plant comprising transforming the maize plant of claim 2 with a transgene that confers herbicide resistance.

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12. An herbicide resistant maize plant produced by the method of claim 11.
13. The maize plant of claim 12, wherein the transgene confers resistance to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea,  
5 glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.
14. A method of producing an insect resistant maize plant comprising transforming the maize plant of claim 2 with a transgene that confers insect resistance.
- 10 15. An insect resistant maize plant produced by the method of claim 14.
16. The maize plant of claim 15, wherein the transgene encodes a *Bacillus thuringiensis* endotoxin.
- 15 17. A method of producing a disease resistant maize plant comprising transforming the maize plant of claim 2 with a transgene that confers disease resistance.
18. A disease resistant maize plant produced by the method of claim 17.
- 20 19. A method of producing a maize plant with decreased phytate content comprising transforming the maize plant of claim 2 with a transgene encoding phytase.
20. A maize plant with decreased phytate content produced by the method of claim 19.
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21. A method of producing a maize plant with modified fatty acid metabolism or modified carbohydrate metabolism comprising transforming the maize plant of claim 2 with a transgene encoding a protein selected from the group consisting of stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch  
30 branching enzyme.
22. A maize plant produced by the method of claim 21.

23. The maize plant of claim 22 wherein the transgene confers a trait selected from the group consisting of waxy starch and increased amylose starch.

24. A maize plant, or a part thereof, having all the physiological and morphological characteristics of the inbred line PH7JD, representative seed of said line having been deposited under ATCC Accession No. PTA-4532.

25. A method of introducing a desired trait into maize inbred line PH7JD comprising:

(a) crossing PH7JD plants grown from PH7JD seed, representative seed of which has been deposited under ATCC Accession No. PTA-4532, with plants of another maize line that comprise a desired trait to produce F1 progeny plants, wherein the desired trait is selected from the group consisting of male sterility, herbicide resistance, insect resistance, disease resistance and waxy starch;

(b) selecting F1 progeny plants that have the desired trait to produce selected F1 progeny plants;

(c) crossing the selected progeny plants with the PH7JD plants to produce backcross progeny plants;

(d) selecting for backcross progeny plants that have the desired trait and physiological and morphological characteristics of maize inbred line PH7JD listed in Table 1 to produce selected backcross progeny plants; and

(e) repeating steps (c) and (d) three or more times in succession to produce selected fourth or higher backcross progeny plants that comprise the desired trait and all of the physiological and morphological characteristics of maize inbred line PH7JD listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

26. A plant produced by the method of claim 25, wherein the plant has the desired trait and all of the physiological and morphological characteristics of maize inbred line PH7JD listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

27. The plant of claim 26 wherein the desired trait is herbicide resistance and the resistance is conferred to an herbicide selected from the group consisting of:

imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.

28. The plant of claim 26 wherein the desired trait is insect resistance and the insect  
5 resistance is conferred by a transgene encoding a *Bacillus thuringiensis* endotoxin.

29. The plant of claim 26 wherein the desired trait is male sterility and the trait is conferred by a cytoplasmic nucleic acid molecule that confers male sterility.

10 30. A method of modifying fatty acid metabolism, phytic acid metabolism or carbohydrate metabolism in maize inbred line PH7JD comprising:

(a) crossing PH7JD plants grown from PH7JD seed, representative seed of which has been deposited under ATCC Accession No. PTA-4532, with plants of another maize line that comprise a nucleic acid molecule encoding an enzyme selected from the  
15 group consisting of phytase, stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme;

(b) selecting F1 progeny plants that have said nucleic acid molecule to produce selected F1 progeny plants;

(c) crossing the selected progeny plants with the PH7JD plants to produce  
20 backcross progeny plants;

(d) selecting for backcross progeny plants that have said nucleic acid molecule and physiological and morphological characteristics of maize inbred line PH7JD listed in Table 1 to produce selected backcross progeny plants; and

(e) repeating steps (c) and (d) three or more times in succession to produce  
25 selected fourth or higher backcross progeny plants that comprise said nucleic acid molecule and have all of the physiological and morphological characteristics of maize inbred line PH7JD listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

30 31. A plant produced by the method of claim 30, wherein the plant comprises the nucleic acid molecule and has all of the physiological and morphological characteristics of maize inbred line PH7JD listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

32. A method for producing a maize seed, comprising crossing the plant of claim 2 with itself or a different maize plant and harvesting the resultant maize seed.
33. An F1 hybrid maize seed produced by crossing a plant of maize inbred line designated PH7JD, representative seed of said line having been deposited under ATCC Accession No. PTA-4532, with a different maize plant and harvesting the resultant F1 hybrid maize seed, wherein said F1 hybrid maize seed comprises two sets of chromosomes and one set of the chromosomes is the same as maize inbred line PH7JD.
34. A maize plant produced by growing the F1 hybrid maize seed of claim 33.
35. A maize plant part of the maize plant of claim 34.
36. An F1 hybrid maize seed comprising an inbred corn plant cell of inbred maize line PH7JD, representative seed of said line having been deposited under ATCC  
5 Accession No. PTA-4532.
37. A maize plant produced by growing the F1 hybrid maize seed of claim 36.
38. The F1 hybrid maize seed of claim 36 wherein the inbred corn plant cell comprises two sets of chromosomes of maize inbred line PH7JD.
39. A maize plant produced by growing the F1 hybrid maize seed of claim 38.